



Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Classification Attainment Report

Station Information

**Station Number: S-1041**  
Waterbody: Bear Brook - Station 1041  
Town: Saco  
Directions: OLD ORCHARD RD., CHURCH PARKING LOT

River Basin: Saco  
HUC8 Name: Presumpscot  
Latitude: 43 30 13.12 N  
Longitude: 70 24 57.88 W  
Stream Order: 2

Sample Information

**Log Number: 2389** Type of Sample: ROCK BAG Date Deployed: 7/23/2015  
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/20/2015

Classification Attainment

**Statutory Class: B** **Final Determination: NA** Date: 9/14/2016  
Model Result with  $P \geq 0.6$ : NA **Reason for Determination: Model**  
Date Last Calculated: 9/8/2016 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.00	Class A, B, or C	0.00
Class B	0.00	Non-Attainment	1.00
Class C			
NA			
1.00			
B or Better Model		A Model	
Class A or B	0.00	Class A	0.00
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	1.00

Model Variables

01 Total Mean Abundance	234.00	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	62.00	19 EPT Generic Richness	12.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.67
04 Ephemeroptera Mean Abundance	0.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.39	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	34.16
06 Hilsenhoff Biotic Index	6.05	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.30	28 EP Generic Richness/14	0.00
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.67		
12 EPT Generic Richness/ Diptera	0.52		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.13		
15 Perlidae Mean Abundance (Family	0.00		
Functional Group)			
16 Tanypodinae Mean Abundance	2.68		
(Family Functional Group)			
17 Chironomini Abundance (Family	23.78		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Dubiraphia</i>	16.24
2	<i>Tanytarsus</i>	14.03
3	<i>Gammarus</i>	13.25
4	Tubificida	8.69
5	<i>Crangonyx</i>	5.84



**Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Classification Attainment Report**

**Station Number: S-1041**

Town: Saco

Date Deployed: 7/23/2015

**Log Number: 2389**

Waterbody: Bear Brook - Station 1041

Date Retrieved: 8/20/2015

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature:	18.9 deg C
Dissolved Oxygen:	6.43 mg/l
Dissolved Oxygen Saturation:	
Specific Conductance:	559 uS/cm
Velocity:	
pH:	7.28
Wetted Width:	1.65 m
Bankfull Width:	2.85 m
Depth:	18 cm

**Waterbody Information - Retrieval**

Temperature:	20.6 deg C
Dissolved Oxygen:	6.39 mg/l
Dissolved Oxygen Saturation:	
Specific Conductance:	491 uS/cm
Velocity:	3 cm/s
pH:	7.2
Wetted Width:	2.9 m
Bankfull Width:	3.2 m
Depth:	14 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Dense	Flat
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Nps Pollution	Below Confluence	Clay 40 %
	Below Urban NPS	Detritus 10 %
		Gravel 20 %
		Sand 30 %

**Landcover Summary - 2004 Data**

**Sample Comments**

7/23/2015: 69.4% DO. UNDERCUT BANKS, MACROPHYTES PRESENT. VISIBLE FLOW.

8/20/2015: 70.6% DO. BAGS PARTIALLY BURIED. FALL FISH, EEL AND FOUR SPINED STICKLEBACK PRESENT.



**Maine Department of Environmental Protection**  
**Biological Monitoring Program**  
**Aquatic Life Taxonomic Inventory Report**

**Station Number: S-1041**

Waterbody: Bear Brook - Station 1041

Town: Saco

**Log Number: 2389**

Subsample Factor: X1

Replicates: 3

Calculated: 9/8/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Phagocata</i>	03010101004	0.33	0.33		--	0.1	0.1
<i>Prostoma</i>	04010101001	0.67	0.67		--	0.3	0.3
Lumbriculidae	08020101	0.33			--	0.1	
<i>Lumbriculus</i>	08020101002		0.39		CG		0.2
<i>Lumbriculus variegatus</i>	08020101002001	0.33			--	0.1	
<i>Stylodrilus</i>	08020101004		1.94		--		0.8
<i>Stylodrilus heringianus</i>	08020101004001	1.67			--	0.7	
Tubificida	080202	20.33	20.33		--	8.7	8.7
<i>Nais</i>	08020202009		0.33		CG		0.1
<i>Nais communis</i>	08020202009005	0.33			--	0.1	
<i>Aulodrilus</i>	08020202018		3.33		--		1.4
<i>Aulodrilus limnobius</i>	08020202018002	0.67			--	0.3	
<i>Aulodrilus plurisetia</i>	08020202018004	2.67			--	1.1	
<i>Limnodrilus</i>	08020202022		4.00		CG		1.7
<i>Limnodrilus hoffmeisteri</i>	08020202022003	4.00			--	1.7	
Lumbricidae	08020205	0.33	0.33		--	0.1	0.1
<i>Glossiphonia</i>	08030101004		2.33		--		1.0
<i>Glossiphonia elegans</i>	08030101004001	2.33			--	1.0	
<i>Helobdella</i>	08030101005		0.67		--		0.3
<i>Helobdella modesta</i>	08030101005004	0.67			--	0.3	
<i>Erpobdella</i>	08030203002		1.33		--		0.6
<i>Erpobdella punctata</i>	08030203002001	0.67			--	0.3	
<i>Erpobdella ferverida</i>	08030203002002	0.67			--	0.3	
<i>Caecidotea</i>	09010101001	6.67	12.67	8	SH	2.8	5.4
<i>Caecidotea communis</i>	09010101001001	6.00			--	2.6	
Amphipoda	090102	0.33	0.33	8	--	0.1	0.1
<i>Gammarus</i>	09010201003		31.00	4	--		13.2
<i>Gammarus fasciatus</i>	09010201003003	31.00			--	13.2	
<i>Crangonyx</i>	09010202004	13.67	13.67	8	--	5.8	5.8
<i>Aeshna</i>	09020301001		1.00	5	PR		0.4
<i>Aeshna umbrosa</i>	09020301001006	1.00			--	0.4	
<i>Boyeria</i>	09020301004		1.00	2	PR		0.4
<i>Boyeria vinosa</i>	09020301004012	1.00			--	0.4	
Calopterygidae	09020307	4.00	4.00		--	1.7	1.7
<i>Calopteryx</i>	09020307043		0.33	5	PR		0.1
<i>Calopteryx maculata</i>	09020307043088	0.33			--	0.1	
<i>Chimarra</i>	09020601003	0.33	0.33	2	CF	0.1	0.1



# **Maine Department of Environmental Protection** **Biological Monitoring Program** **Aquatic Life Taxonomic Inventory Report**

**Station Number: S-1041**

Waterbody: Bear Brook - Station 1041

Town: Saco

**Log Number: 2389**

Subsample Factor: X1

Replicates: 3

Calculated: 9/8/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Lype</i>	09020602004		0.33	2	SC		0.1
<i>Lype diversa</i>	09020602004005	0.33			--	0.1	
Polycentropodidae	09020603	0.33	0.33		--	0.1	0.1
<i>Plectrocnemia</i>	09020603012	4.67	4.67	6	PR	2.0	2.0
<i>Cheumatopsyche</i>	09020604015	0.67	0.67	5	CF	0.3	0.3
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.1	0.1
<i>Oligostomis</i>	09020608039	1.00	1.00	2	PR	0.4	0.4
<i>Ptilostomis</i>	09020608041	1.00	1.00	5	SH	0.4	0.4
Limnephilidae	09020610				--		
<i>Hydatophylax</i>	09020610048		0.67	2	SH		0.3
<i>Hydatophylax argus</i>	09020610048103	0.67			--	0.3	
<i>Frenesia</i>	09020610058		0.33	0	SH		0.1
<i>Frenesia difficilis</i>	09020610058117	0.33			--	0.1	
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.1	0.1
Leptoceridae	09020618				--		
<i>Mystacides</i>	09020618075		0.33	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	0.33			--	0.1	
Lepidoptera	090209	0.33	0.33		--	0.1	0.1
<i>Molophilus</i>	09021001016	0.33	0.33		--	0.1	0.1
Ceratopogonidae	09021010				--		
<i>Bezzia/palpomyia</i>	09021010043	0.67	0.67	6	PR	0.3	0.3
Chironomidae	09021011	0.33			--	0.1	
<i>Ablabesmyia</i>	09021011001		0.67	8	PR		0.3
<i>Ablabesmyia mallochii</i>	09021011001004	0.67			--	0.3	
<i>Labrundinia</i>	09021011008			7	PR		
<i>Meropelopia</i>	09021011010	0.33	0.33		--	0.1	0.1
<i>Natarsia</i>	09021011011		0.67	8	PR		0.3
<i>Natarsia baltimoreus</i>	09021011011026	0.67			--	0.3	
<i>Paramerina</i>	09021011013		0.67		--		0.3
<i>Paramerina anomala</i>	09021011013001	0.67			--	0.3	
<i>Procladius</i>	09021011015	0.33	0.33	9	PR	0.1	0.1
<i>Prodiamesa</i>	09021011031		0.33	3	CG		0.1
<i>Prodiamesa olivacea</i>	09021011031048	0.33			--	0.1	
<i>Parakiefferiella</i>	09021011052	0.33	0.33		CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	0.67	0.67	6	CG	0.3	0.3
<i>Cladotanytarsus</i>	09021011068	2.67	2.68	7	CG	1.1	1.1
<i>Micropsectra</i>	09021011070			7	CG		
<i>Paratanytarsus</i>	09021011071		4.02	6	--		1.7



**Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Taxonomic Inventory Report**

**Station Number: S-1041**      Waterbody: Bear Brook - Station 1041      Town: Saco  
**Log Number: 2389**      Subsample Factor: X1      Replicates: 3      Calculated: 9/8/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Paratanytarsus dissimilis</i>	09021011071125	4.00			--	1.7	
<i>Rheotanytarsus</i>	09021011072		0.67	6	CF		0.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.67			CF	0.3	
<i>Rheotanytarsus pellucidus</i>	09021011072128				CF		
<i>Stempellinella</i>	09021011074		1.67	2	--		0.7
<i>Stempellinella fimbriata</i>	09021011074002	1.67			--	0.7	
<i>Tanytarsus</i>	09021011076	30.00	32.82	6	CF	12.8	14.0
<i>Tanytarsus buckleyi</i>	09021011076139	1.67			CF	0.7	
<i>Tanytarsus sepp</i>	09021011076141	1.00			--	0.4	
<i>Cryptochironomus</i>	09021011082	5.33	5.36	8	PR	2.3	2.3
<i>Microtendipes</i>	09021011094		3.68	6	CF		1.6
<i>Microtendipes pedellus group</i>	09021011094166	3.33			--	1.4	
<i>Microtendipes rydalensis group</i>	09021011094168	0.33			--	0.1	
<i>Paralauterborniella</i>	09021011099		0.67	8	CG		0.3
<i>Paralauterborniella nigrohalteralis</i>	09021011099175	0.67			--	0.3	
<i>Paratendipes</i>	09021011100		3.01	8	CG		1.3
<i>Paratendipes albimanus group</i>	09021011100176	3.00			--	1.3	
<i>Phaenopsectra</i>	09021011101		0.33	7	SC		0.1
<i>Phaenopsectra flavipes</i>	09021011101179	0.33			SC	0.1	
<i>Polypedilum</i>	09021011102		3.35	6	SH		1.4
<i>Polypedilum scalaenum group</i>	09021011102189	3.33			--	1.4	
<i>Stictochironomus</i>	09021011106	7.33	7.37	9	CG	3.1	3.1
<i>Simulium</i>	09021012047			4	CF		
<i>Chrysops</i>	09021014052	1.33	1.33	6	CG	0.6	0.6
<i>Hydrobius</i>	09021105047	0.67	0.67		--	0.3	0.3
<i>Dubiraphia</i>	09021113064	6.33	38.00	6	--	2.7	16.2
<i>Dubiraphia minima</i>	09021113064036	2.33			--	1.0	
<i>Dubiraphia quadrinotata</i>	09021113064037	29.33			--	12.5	
Acariformes	090301	0.67	0.67		--	0.3	0.3
<i>Lebertia</i>	09030105001	0.33	0.33		--	0.1	0.1
Basommatophora	100102	1.00	1.00		--	0.4	0.4
Lymnaeidae	10010201	0.33	0.33		--	0.1	0.1
<i>Lymnaea</i>	10010201022		0.67		SC		0.3
<i>Lymnaea columella</i>	10010201022038	0.33			--	0.1	
<i>Lymnaea humilis</i>	10010201022040	0.33			--	0.1	
<i>Physa</i>	10010202027	8.00	8.00		SC	3.4	3.4
Sphaeriidae	10020201	0.67	0.67		CF	0.3	0.3
<i>Pisidium</i>	10020201002	1.00	1.00		CF	0.4	0.4